



Data Publication in the Meteorological Sciences: the OJIMS project

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Historically speaking, scientific publication has mainly focussed on the analysis, interpretation and conclusions drawn from a given dataset, as these are the information that can be easily published in hard copy text format with the aid of diagrams. Examining the raw data that forms the dataset is often difficult to do, as datasets are usually stored in digital media, in a variety of (often proprietary or non-standard) formats. This means that the peer-review process is generally only applied to the methodology and final conclusions of a piece of work, and not the underlying data itself. Yet for the conclusions to stand, the data must be of good quality, and the peer-review process must be used to judge the data quality.

Data publication, involving the peer-review of datasets, would be of benefit to many sectors of the academic community. For the data scientists, who often spend considerable time and effort ensuring that their data and metadata is complete, valid and stored in an accredited data repository, this would provide academic credit in the form of extra publications and citations. Data publication would benefit the wider community, allowing discovery and reuse of useful datasets, ensuring their curation and providing the best possible value for money.

Overlay journals are a technology which is already being used to facilitate peer review and publication online. The Overlay Journal Infrastructure for Meteorological Sciences (OJIMS) Project aimed to develop the mechanisms that could support both a new (overlay) Journal of Meteorological Data and an Open-Access Repository for documents related to the meteorological sciences. The OJIMS project was conducted by a partnership between the UK's Royal Meteorological Society (RMetS) and two members of the National Centre for Atmospheric Science (NCAS), the British Atmospheric Data Centre (BADC) and the University of Leeds.

Conference delegates at the NCAS Conference in Bristol of 8-10 December 2008 were invited to complete a survey to assess the potential implications for the meteorological sciences should a data journal and an open access subject repository be created and operated. Supervised run-throughs of a demonstrator Journal of Meteorological Data were also carried out by seven volunteers at the conference. The feedback from the surveys and demonstrations became part of the reports and recommendations produced by the project. This included discussion of the benefits to data creators, the review process, branding, version control and citations.

The project concluded that standard online journal technologies are suitable for the development and operation of a data journal as they allow the use of all the functions of journals without the need to engineer new solutions. The user surveys and interviews also showed that there is a significant desire in the meteorological sciences community for a data journal.